

# **Deep Inferior Epigastric Perforator Breast Flap Reconstruction Outpatient Protocol:**

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# **DAY 5-WEEK 2:**

- Continue home exercise program per written patient handout.
- Continue appropriate incision care management per MD.
- Maintain continue rest with minimal participation in IADL's and limited community negotiation and involvement.

# Phase II – Sub-Acute Phase (week 2 -week 6):

# Precautions:

- No heating pads or ice over flap at any time.
- Do not wear a bra until cleared by your surgeon at your 3rd or 4th week follow up visit.
- Avoid beverages/foods that are high in caffeine.
- No sexual activity for the first 6 weeks.
- No upper extremity range of motion greater than 90 degrees (level of shoulders) on the affected side until week 6.

#### Goals:

- Adequate pain control.
- Resumption of IADL's and work activities per below listed precautions
- Absence of lymphedema on affected extremity

# Criteria for progression to the next phase (Phase III):

- Resume baseline IADL's
- Appropriate healing of breast incision.
- Appropriate healing of abdominal incision
- Absence of UE lymphedema where appropriate.

# **WEEK 2 - 6:**

- Patient may return to walking program at a light intensity with minimal arm swing.
- Patient to complete home exercise program.
- Patient may return to wear a bra when cleared by surgeon.
- Patient may incorporate gentle pectoralis major stretching after week 6 (See Appendix D)
- Patient may begin gentle scar mobilization to all incisions beginning week 3 to promote appropriate tissue healing.

# Phase III – Intermediate phase (week 6-12):

# Precautions:

• No abdominal strengthening until 3 months if patient deemed to be stable per plastic surgeon.

#### Goals:

- Return to baseline PROM and AROM of the affected shoulder
- Return to baseline strength of the affected shoulder
- Complete healing of surgical sites.
- Complete all ADL's, IADL's, and work activities pain-free in affected shoulder

Criteria for progression to the next phase:

- Complete healing of abdominal incision
- Complete return of strength to affected shoulder

# **WEEK 6-10**

- Patient may resume all aerobic and strengthening activities performed at their baseline level EXCEPT for abdominal exercises. The American College of Sports Medicine (ACSM) specifically indicates walking and bicycling as two forms of recommended aerobic exercise. The ACSM recommends aerobic exercise 3-5 times/week, however daily exercise may be optimal for patient's who are deconditioned following surgery at lighter intensity or shorter duration of exercises. The ACSM recommends moderate level of activity, which can be achieved by using the patient's 60-80% of their HR maximum, at a duration of 20-60 minutes. (ACSM)
- Patient may begin trunk flexibility light stretching at week 6. (Appendix D)
- Patient may resume upper extremity strengthening, with focus on the following exercises and motions upper trapezius, lower trapezius, serratus anterior, and shoulder ER. Patient may use theraband to complete these exercises, beginning with light resistance theraband and increasing repetitions and resistance slowly. Begin with 10 repetitions x 1 set, 2x/day and slowly increase to 10 repetitions x 3 sets. (Appendix D)

# Phase IV – Advanced strengthening phase (week 12-20):

### **Precautions:**

• Lymphedema precautions as appropriate

# Goals:

- Full resumption of baseline physical activities
- No pain with activities.
- Patient will be independent with lymphedema lifelong precautions

# Criteria for progression to the next phase:

• Return to prior baseline level of activity

# **WEEK 12-15:**

- Resume abdominal exercises. Examples of exercises to begin your abdominal recruitment include pelvic tilts, bridging with abdominal recruitment, abdominal crunches, reverse sit-ups, quadruped pelvic tilts and sitting w/ alternating UE/LE extension. (Appendix D)
- Resume yoga activities, if performed at baseline, to increase trunk and shoulder flexibility and core strengthening. (Appendix D)

# **Appendix D: Exercises**

For the following examples of exercises. Do not advance to the next exercise phase if you are experiencing difficulties with pain, motion, or strength with your current exercise phase. Please request a consultation to a physical therapist to develop an appropriate exercise program for you.

Phase I: Exercises at Weeks 0-2:



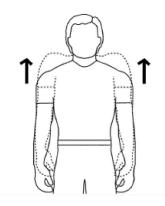
# **Butterfly Exercise:**

- Stand with hands against side of head with elbows touching in front
- Palms should be turned inward
- Move elbows out to side until even with the shoulders, not behind the shoulders.
- Do not allow elbows to go higher than shoulders
- Return to start position and repeat. Perform 1 set of 10 repetitions twice daily



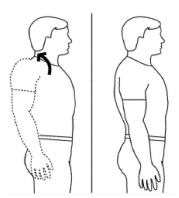
# **Back Scratch:**

- Reach behind back and hold hands together
- Gently slide hands up back and slowly return to start position Perform 1 set of 10 repetitions twice daily



# **Shoulder Shrug:**

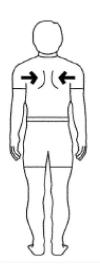
- -Raise shoulders upward toward ears and hold for 3-
- -Return to start position. Focus on relaxing shoulders downward at rest.
- -Inhale as you bring your shoulders up and exhale as you relax your shoulders down
  Perform 1 set of 10 repetitions twice daily



# **Shoulder Rolls:**

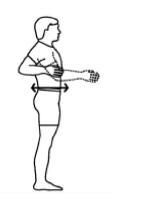
-Raise shoulders up toward ears and roll shoulders backwards

Perform 1 set of 10 repetitions twice daily



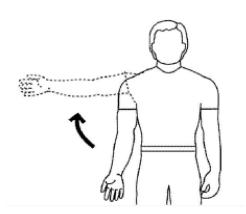
- <u>Scapular Retraction:</u>
  -Sit or stand as upright as possible
- -Squeeze both shoulder blades together, sticking out chest at the same time

Perform 1 set of 10 repetitions twice daily



# **Arm Saw:**

- Bend elbow to 90 degrees
- Move arm back bending elbow more
- Move arm forward, straightening elbow
- The motion resembles a sawing movement Perform 1 set of 10 repetitions twice daily

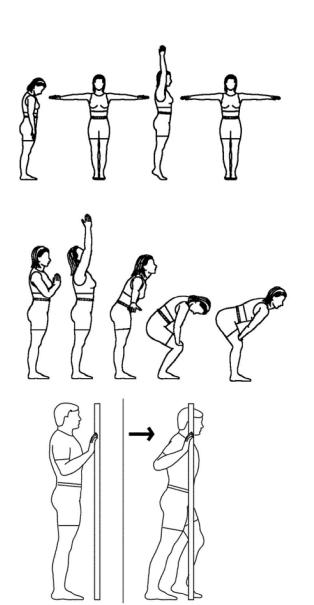


# **Arm Raises:**

- -Begin with arms at side, elbow straight, and palm forward
- -Slowly raise arm upward out to the side.
- -Stop at shoulder height (90 degrees).
- -Slowly return to side

Perform 1 set of 10 repetitions twice daily

Phase II: Exercises Positions at Week 6: All exercises in this section typically start 6 weeks after surgery. Clearance from your plastic surgeon is recommended prior to initiation of these exercises. Continue all exercises from Phase 1 through your full range of motion.



# **Breathing Tall Stand Windmill**

- Stand with heels and toes together.
- Exhale and let the body relax as shown.
- Begin breathing in while lifting arms out to side and up, keeping palms upward.
- Continue inhaling until arms are overhead while you raise up on toes.
- Exhale by reversing the movement.
- Repeat.

Perform 1 set of 10 Repetitions, once every other day.

#### **Sun Salutation Beginner (part 1)**

- Stand, feet together, hands at chest, palms together.
- Inhale and reach arms up overhead, and lower outward to sides while exhaling.
- Bend upper back, knees and hips and place hands on thighs and bend neck downward while continuing to exhale.
- Inhale, look forward with head and straighten back as shown.

Perform 1 set of 10 Repetitions, once every other day.

#### Stretch Pectoral standing bil at door

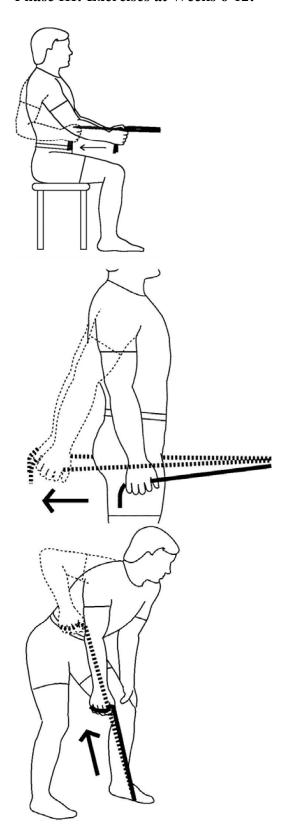
- Stand in doorway or in corner.
- Place arms at chest level on sides of doorway as shown.
- Gently step forward, keeping back straight.
- Return to start position.

#### **Special Instructions:**

Place both hands at waist level or at head level to stretch different portions of muscle.

Perform 1 set of 4 Repetitions, twice a day. Hold exercise for 20 Seconds.

# Phase III: Exercises at Weeks 6-12:



#### Resist shoulder retract sit arms down w/elastic

- Attach elastic to secure object.
- · Grasp elastic in hands.
- Sit in chair with back unsupported, maintaining proper posture.
- Keep elbows near sides, elbows bent.
- Squeeze shoulder blades together, pulling arms back.
- Slowly return to start and repeat.

Perform 3 sets of 10 Repetitions, once every other day.

Use Elastic.

Rest 1 Minute between sets.

Perform 1 repetition every 4 Seconds.

#### \* May do sitting or standing

# Resist shoulder extension bilaterally stand w/elastic

- · Secure elastic at waist level as shown.
- Face toward elastic.
- Grasp elastic in hands, and pull backwards, keeping elbows straight.
- Return to start position.

#### **Special Instructions:**

Maintain neutral spine in low back.

Perform 3 sets of 10 Repetitions, once every other day.

Use Elastic.

Rest 1 Minute between sets.

Perform 1 repetition every 4 Seconds.

#### Resist shoulder bent row w/elastic

- Secure elastic under opposite foot.
- Hold elastic in involved arm.
- Slightly bend hips and knees and support upper body with other arm as shown.
- Pull up on elastic, raising elbow to shoulder height.
- Slowly return to start position and repeat.

# **Special Instructions:**

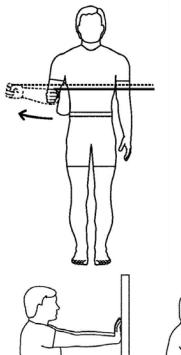
Contract abdominal muscles and maintain a neutral spine, not allowing trunk to twist.

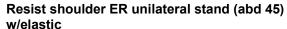
Perform 3 sets of 10 Repetitions, once every other day.

Use Elastic.

Rest 1 Minute between sets.

Perform 1 repetition every 4 Seconds.



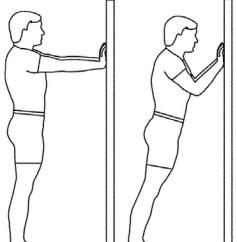


- Attach elastic to secure object at waist level.
- Place pillow between elbow and body.
- Grasp elastic in hand, elbow bent to 90.
- Rotate arm outward and return.
- Slowly return to start position and repeat. Perform 3 sets of 10 Repetitions, once every other day.

Use Elastic.

Rest 1 Minute between sets.

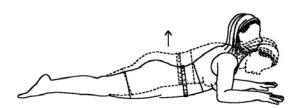
Perform 1 repetition every 4 Seconds.



# AROM shoulder push-ups at wall

- Stand facing wall, about 12-18 inches away.
- Place hands on wall at shoulder height.
- Slowly bend elbows, bringing face to wall.
- Push back up to start position and repeat. Perform 3 sets of 20 Repetitions, once a day. Rest 1 Minute between sets.

Perform 1 repetition every 4 Seconds.



# AROM abdominal bracing prone elbow/knees

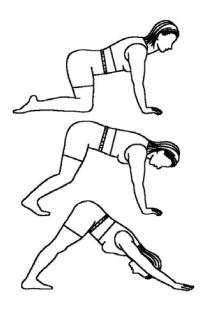
- Lie face down, upper body supported on elbows with forearms on floor as shown.
- Tighten up abdominal muscles and lift hips up until trunk is straight, keeping knees on floor.
- Hold position, lower and repeat.

Perform 5 sets of 1 Minute, once a day.

Rest 1 Minute between sets.

Perform 1 repetition every 4 Seconds.

# Phase IV: Exercises at Weeks 12+:





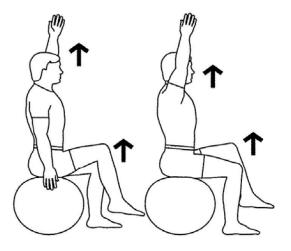
- Begin on hands and knees, palms on floor.
- Turn toes under.
- Lift buttocks upward, straightening legs.
- Feet should be flat on floor and arms are straight, and head is facing floor with neck in line with trunk.
- Hold and repeat.

Perform 1 set of 10 Repetitions, once every other day.



#### Side Plank - Beginner

- Lie on left side, legs straight and left hand on floor near shoulder as shown.
- Push up with left arm, keeping trunk straight.
- Raise right arm straight out and above, fingers straight.
- Hold, lower and repeat on other side.
   Perform 1 set of 10 Repetitions, once every other day.



# AROM hip marching w/alt arms on Ball

- Sit on ball with hips and knees at 90 degrees.
- Lift up left leg and right arm as shown.
- Lower arm and leg.
- Repeat with right leg and left arm.

# Special Instructions:

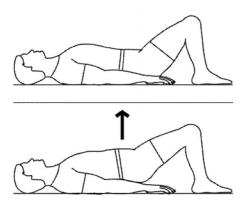
Maintain proper low back posture.

Perform 3 sets of 20 Repetitions, once a day. Use Ball.

Rest 1 Minute between sets.

Perform 1 repetition every 4 Seconds.

\* May perform this sitting in a chair or seated on a ball.



# AROM lumbar bridging bil • Lie on back with knees bent.

- Do not use your arms (can cross over chest)Lift buttocks off bed, hold for count of 3
- Return to start position.

# **Special Instructions:**

Maintain neutral spine.
Perform 1 set of 10 Repetitions, three times a day.
Hold exercise for 3 Seconds.